

Listing of Claims:

1. (currently amended) A method for providing supplemental information related to a television program, the method comprising:

storing a program interface object (PIO) within a memory of an entertainment system, the PIO comprising a single data structure within the memory that encapsulates attribute data for one or more attributes providing information about a single television program and program code for one or more user-selectable actions ~~associated with the television program, the one or more attributes providing information about the television program, the one or more user-selectable actions comprising~~ program code executable by the entertainment system in connection with the same television program, at least one attribute comprising a link to supplemental information related to the television program;

retrieving the supplemental information referenced by the link; and

displaying the supplemental information on a display device associated with the entertainment system.

2. (original) The method of claim 1, wherein retrieving comprises:
establishing communication with a supplemental information server;
requesting the supplemental information referenced by the link from the supplemental information server; and
receiving the requested supplemental information.

3. (original) The method of claim 2, wherein the supplemental information server comprises an Internet server.

4. (original) The method of claim 1, wherein the link comprises a Uniform Resource Locator (URL).

5. (original) The method of claim 1, wherein the link comprises a file name.

6. (original) The method of claim 1, wherein the PIO further comprises a visual indicator, the method further comprising:

displaying the visual indicator in a graphical user interface; and

detecting a user selection of the visual indicator.

7. (original) The method of claim 6, wherein the visual indicator comprises a graphical icon.

8. (original) The method of claim 6, wherein the PIO further comprises a first action configured to display the supplemental information referenced by the link, the method further comprising:

displaying a list of the plurality of user-selectable actions associated with the PIO; and

detecting a user selection of the first action.

9. (original) The method of claim 1, wherein displaying comprises:

automatically displaying the supplemental information in response to the television program being presented by the entertainment system.

10. (original) The method of claim 1, wherein displaying comprises:
automatically displaying the supplemental information prior to the television program being presented by the entertainment system.

11. (original) The method of claim 1, wherein displaying comprises:
launching a browser configured to display the supplemental information;
and
displaying the supplemental information within the browser.

12. (original) The method of claim 1, wherein the PIO comprises a set of link attributes, each link attribute comprising a different link to a set of supplemental information.

13. (original) The method of claim 12, further comprising:
displaying a list of link attributes associated with the PIO; and
receiving a user selection of a particular link attribute from the list of link attributes.

14. (original) The method of claim 1, wherein the supplemental information comprises an eXtensible Markup Language (XML) document.

15. (original) The method of claim 1, wherein the PIO is selected from the group consisting of a JavaBean object, a Distributed Component Object Model (DCOM) object, and an eXtensible Markup Language (XML) object.

16. (original) The method of claim 1, wherein the entertainment system is selected from the group consisting of a personal computer, an interactive television (ITV) system, and a personal digital assistant (PDA).

17. (withdrawn) A method for initiating a commercial transaction within an entertainment system, the method comprising:

storing a program interface object (PIO) within the entertainment system, the PIO comprising a plurality of attributes, at least one attribute comprising a link to a commercial server, the PIO further comprising a plurality of user-selectable actions performable by the entertainment system in connection with the television program;

establishing communication with the commercial server referenced by the link; and

initiating a commercial transaction with the commercial server using the link.

18. (withdrawn) The method of claim 17, wherein the link comprises a Uniform Resource Locator (URL) and wherein establishing comprises:

directing a browser to the URL.

19. (withdrawn) The method of claim 17, wherein the PIO comprises user information necessary for initiating the commercial transaction and wherein initiating comprises:

transmitting the user information to the commercial server.

20. (withdrawn) The method of claim 19, wherein the user information comprises a user's payment information, and wherein sending comprises:

encrypting the payment information prior to transmission to the commercial server.

21. (withdrawn) The method of claim 19, wherein the user information comprises a digital certificate.

22. (withdrawn) The method of claim 19, wherein user information is selected from the group consisting of a name, a user ID, a password, an address, a telephone number, and payment information.

23. (withdrawn) The method of claim 17, wherein the link identifies a particular product from a set of products, and wherein initiating comprises:

placing an order for the identified product.

24. (withdrawn) The method of claim 23, wherein the commercial server comprises a video-on-demand server, and wherein the identified product comprises a license for video-on-demand content.

25. (withdrawn) The method of claim 23, wherein the commercial transaction comprises a sales transaction for a particular product and wherein initiating further comprises:

prompting the user to approve the sales transaction;
receiving an indication of approval from the user.

26. (withdrawn) The method of claim 17, wherein the PIO further comprises a visual indicator, the method further comprising:

displaying the visual indicator in a graphical user interface; and
detecting a user selection of the visual indicator.

27. (withdrawn) The method of claim 26, wherein the visual indicator comprises a graphical icon.

28. (withdrawn) The method of claim 26, wherein the PIO further comprises a first action configured to initiate a commercial transaction, the method further comprising:

detecting a user selection of the first action.

29. (withdrawn) The method of claim 17, wherein the PIO comprises a set of link attributes, each link attribute comprising a link for initiating a different commercial transaction.

30. (withdrawn) The method of claim 17, wherein the link comprises a Uniform Resource Locator (URL).

31. (withdrawn) The method of claim 17, wherein the PIO is selected from the group consisting of a JavaBean object, a Distributed Component Object Model (DCOM) object, and an eXtensible Markup Language (XML) object.

32. (withdrawn) The method of claim 17, wherein the entertainment system is selected from the group consisting of a personal computer, an interactive television (ITV) system, and a personal digital assistant (PDA).

33. (withdrawn) A method for providing interactive communication related to a television program within an entertainment system, the method comprising:

storing a program interface object (PIO) within the entertainment system, the PIO comprising a plurality of attributes carrying information about a television program, at least one attribute comprising a link to a chat server, and a plurality of user-selectable actions performable by the entertainment system in connection with the television program;

establishing a chat session with the chat server referenced by the link; and
connecting to a chat room hosted on the chat server.

34. (withdrawn) The method of claim 33, where establishing comprises:
launching an instant messaging client on the entertainment system.

35. (withdrawn) The method of claim 33, wherein the link comprises an indication of a chat room on the chat server and wherein establishing comprises:

directing the instant messaging client to the indicated chat room.

36. (withdrawn) The method of claim 33, wherein the link comprises an indication of a chat conference on the chat server and wherein establishing comprises:

directing the instant messaging client to the indicated chat conference.

37. (currently amended) A system for providing supplemental information related to a television program, the system comprising:

computer-readable medium that stores a program interface object (PIO), the PIO comprising a single data structure that encapsulates attribute data for one or more attributes providing information about a single television program and program code for one or more user-selectable actions associated with the television program, ~~the one or more attributes providing information about the television program, the one or more user-selectable actions comprising program code~~ executable by the entertainment system in connection with the same television program, at least one attribute comprising a link to supplemental information related to the television program;

a retrieval component that retrieves the supplemental information referenced by the link; and

a display component that displays the supplemental information on a display device associated with the entertainment system.

38. (original) The system of claim 36, further comprising:
a communication component that establishes communication with a supplemental information server and requests the supplemental information referenced by the link from the supplemental information server.
39. (original) The system of claim 37, wherein the supplemental information server comprises an Internet server.
40. (original) The system of claim 36, wherein the link comprises a Uniform Resource Locator (URL).
41. (original) The system of claim 36, wherein the link comprises a file name.
42. (original) The system of claim 36, wherein the PIO further comprises a visual indicator and wherein the display component is further configured to display the visual indicator in a graphical user interface and detect a user selection of the visual indicator.
43. (original) The system of claim 41, wherein the visual indicator comprises a graphical icon.
44. (original) The system of claim 41, wherein the PIO further comprises a first action configured to display the supplemental information referenced by the link and wherein the display component is further configured to display a list of the plurality of user-selectable actions associated with the PIO; and detect a user selection of the first action.

45. (original) The system of claim 36, wherein the display component is configured to automatically display the supplemental information in response to the television program being presented by the entertainment system.

46. (original) The system of claim 36, wherein the display component is configured to automatically display the supplemental information prior to the television program being presented by the entertainment system.

47. (original) The system of claim 36, wherein the display component is configured to automatically launch a browser configured to display the supplemental information and display the supplemental information within the browser.

48. (original) The system of claim 36, wherein the PIO comprises a set of link attributes, each link attribute comprising a different link to a set of supplemental information.

49. (original) The system of claim 47, wherein the display component is further configured to display a list of link attributes associated with the PIO and receive a user selection of a particular link attribute from the list of link attributes.

50. (original) The system of claim 36, wherein the supplemental information comprises an eXtensible Markup Language (XML) document.

51. (original) The system of claim 36, wherein the PIO is selected from the group consisting of a JavaBean object, a Distributed Component Object Model (DCOM) object, and an eXtensible Markup Language (XML) object.

52. (currently amended) A system for providing supplemental information related to a television program, the system comprising:

means for storing a program interface object (PIO) within a memory of an entertainment system, the PIO comprising a single data structure within the memory that encapsulates attribute data for one or more attributes providing information about a single television program and program code for one or more user-selectable actions ~~associated with the television program, the one or more attributes providing information about the television program, the one or more user-selectable actions comprising~~ program code executable by the entertainment system in connection with the same television program, at least one attribute comprising a link to supplemental information related to the television program;

means for retrieving the supplemental information referenced by the link;
and

means for displaying the supplemental information on a display device associated with the entertainment system.

53. (withdrawn) A system for initiating a commercial transaction within an entertainment system, the method comprising:

means for storing a program interface object (PIO) within the entertainment system, the PIO comprising a plurality of attributes, at least one attribute comprising a link to a commercial server, the PIO further comprising a plurality of user-selectable actions performable by the entertainment system in connection with the television program;

means for establishing communication with the commercial server referenced by the link; and

means initiating a commercial transaction with the commercial server using the link.

54. (previously presented) The method of claim 1, wherein the program code is in a machine-independent format that is executable in a virtual machine within the entertainment device and any destination device to which the PIO is sent, such that the program code does not need to be installed on the destination device prior to receiving the PIO in order to perform an associated user-selected action.

55. (previously presented) The system of claim 37, wherein the program code is in a machine-independent format that is executable in a virtual machine within the entertainment device and any destination device to which the PIO is sent, such that the program code does not need to be installed on the destination device prior to receiving the PIO in order to perform an associated user-selected action.